WebRIT WATERS Tutorial

Web-based Reach Indexing Tool
for Watershed Assessment, Tracking,
and Environmental ResultS

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1.0   Foreword

The Web-based Reach Indexing Tool (WebRIT) for the Watershed Assessment, Tracking, and Environmental ResultS (WATERS) system is an interactive mapping tool that allows users to view surface waters and related water quality information in the National Hydrography Dataset (NHD). It is particularly useful for users who need to store location data for their own water quality programs because WebRIT allows users to select surface water areas of interest and assign an identifier to link those areas to attribute information in an associated program database. For example, Grants Reporting Tracking System (GRTS) users can use WebRIT to assign grant and project number information that can be used to display project information for the GRTS database in NHD. Currently, WebRIT allows users to submit locational information for the following U.S. Environmental Protection Agency (EPA) programs: Beaches Environmental Assessment and Coastal Health (BEACH) Act, the Nonpoint Source GRTS Program, Combined Sewer Overflows (CSO), Clean Water Needs Survey (CWNS), Drinking Water Intakes (DWI), Electronic Notice of Intent (ENOI), the Permit Application Software System (PASS), the Permit Compliance System (PCS), Special Appropriations Act Projects (SAAP), and the Water Quality Standards (WQS) Program and the U.S. Geological Survey's (USGS's) National Water Information System (NWIS) Program. Additional programs are continually added to WebRIT at the request of Program Managers.

The location data for water quality information is stored through the use of reach addresses from the NHD. A reach address identifies a specific location on a particular stream or lake the same way a residence address identifies a specific location on a particular street. Reach codes, which uniquely identify each segment of a stream or lake within the NHD, are the fundamental components of reach addressing. Reach addresses are used in many national EPA surface water data systems, including WATERS. For more information on reach addresses and how they can be used for location information, visit EPA's Georeferencing Web site at http://www.epa.gov/owow/monitoring/georef.

You can access WebRIT at the following Web site: http://www.epa.gov/waters/webrit.

Goals of This Tutorial

The WebRIT application allows the user to select stream, lake, and coastal reaches in the NHD and assign Entity ID's or program identifiers to user-selected portions of the NHD. This tutorial will show you how to identify and select reaches in the NHD, as well as how to assign appropriate identifiers to these reaches. The tutorial will also show you how to view and modify data that have been entered into the WebRIT and provides practice examples to familiarize you with WebRIT. It should take approximately 1 hour to complete this tutorial.

When you complete this tutorial, you will be prepared to complete the following tasks:

- Use the various tools offered through the WebRIT
- Create, edit, and delete location information for water quality data.

Using This Tutorial

This tutorial includes text descriptions of WebRIT functions and associated concepts, as well as step-by-step instructions to follow, which are called out into gray text boxes that are separate from the rest of the text.

1.	This is an example of a text box that contains instructions for you to follow.

2.0   Orientation to the WebRIT

1.	Before you access the WebRIT Log In screen, check your computer's display settings by clicking on **Start -> Settings -> Control Panel -> Display**, then click on the **Settings** tab. WebRIT is best viewed using a screen resolution of 1024 x 768 pixels.
2.	Next, make sure all pop-up blockers are disabled. In the newest versions of Internet Explorer, you disable your pop-up blocker by selecting the following from the menu: **Tools -> Pop-up Blocker -> Turn Off Pop-up Blocker.** If you have a toolbar, such as Google, you must disable the pop-up blocker per that toolbar's instructions.
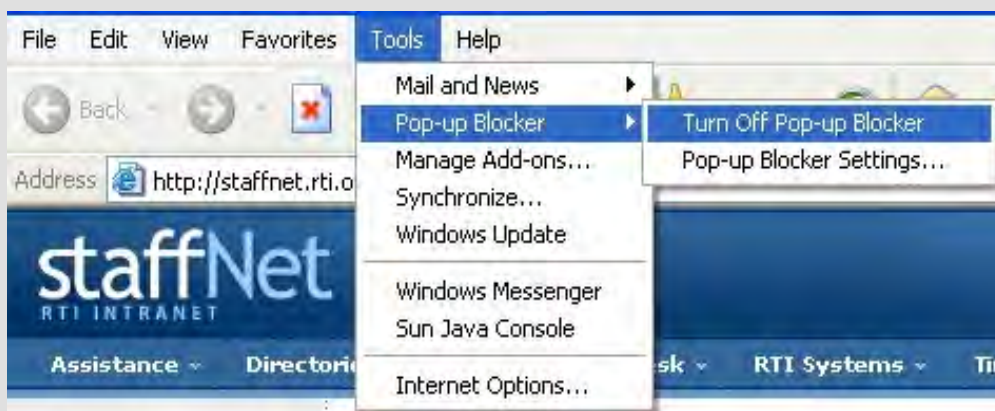
3.	Access the WebRIT on the Internet at **http://www.epa.gov/waters/webrit** using Internet Explorer 5.5 or 6.0. *Please note: The WebRIT is not compatible with Netscape*.
4.	To start the application, click the **Log In** button on the bottom of your browser page.
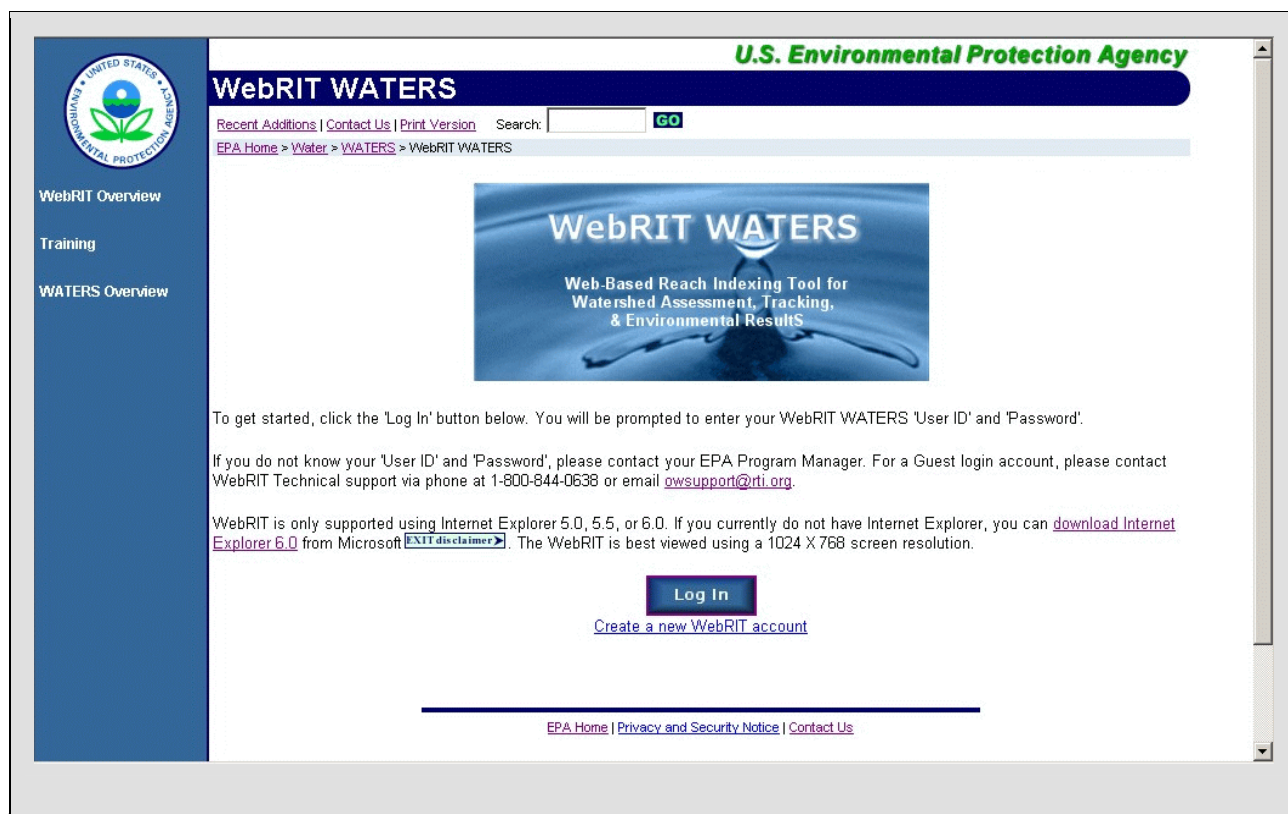
Please note: The first time you access WebRIT to enter your own data, you must use the **Create a New WebRIT Account** link, which is found below the **Log In** button. The **Create a new WebRIT account** link allows you to create a User ID and Password, enter information about yourself, and choose the programs you would like to access. The Program Manager of each EPA program that you register for must approve your account before you can begin using the WebRIT application.

After clicking the **Log In** button, the "WebRIT WATERS Log-In" screen will appear so you can enter your User ID and Password. *Please note: To obtain a training ID and training password for this exercise, contact the Office of Water Support Hotline staff at 1-800-844-0638, or you can e-mail them at* owsupport@rti.org.

1.   Enter your USER ID and Password information, and then click the **Use WebRIT** button.

You will be re-directed to the WebRIT WATERS Zoom Setup screen. This screen allows you to zoom into a location by state, zip code, etc. by clicking on the **WATERS Zoom Service** button. Or you can click the **Continue** button, and you will be zoomed in to the full extent of your State or Region.

2.   Click the **Continue** button to enter the WebRIT.

2.1 What You See

The WebRIT application consists of the following main components: the *Toolbar*, the *Main Map* (henceforth referred to as the *Map*), and the *Layers List*. The *Toolbar* will maintain its appearance throughout your work. The *Map* and the *Layers List* will be updated as you define your area of interest.

Figure 1 shows the WebRIT application as it should now appear on your screen. As you begin the following exercise, please note that important features have been labeled for reference.
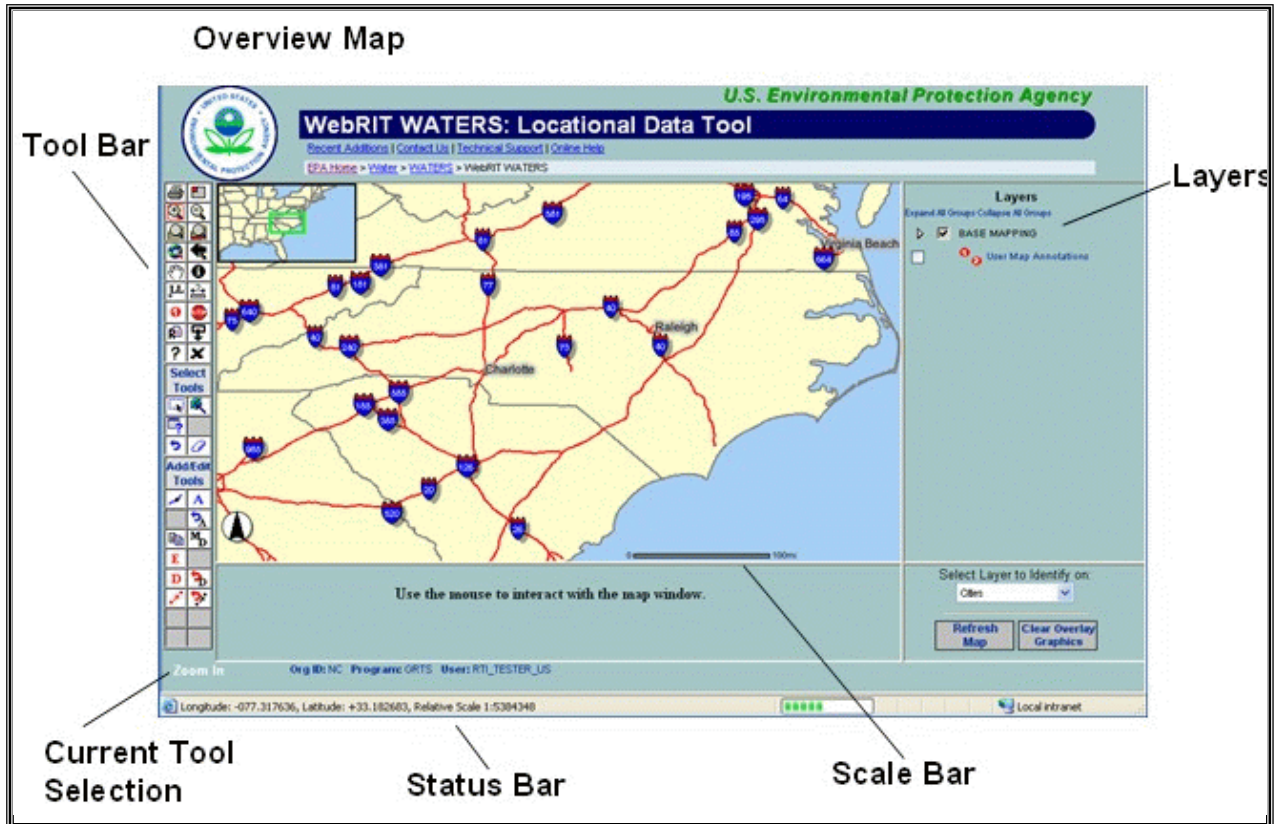
2.2 The Toolbar

The *Toolbar*, which is shown on the left side of your browser (Figure 2), contains various tools to help you locate map features of interest. To view descriptions of the tool buttons in the *Toolbar*, move your mouse over the buttons, and a text description will appear near your mouse pointer. A description will also appear in the status bar at the bottom of your browser window.

The layers and tools that are available are customized for each program. Figure 2 shows a complete list of the tools available on the WebRIT *Toolbar*. Because the tools are customized for each program, you may not be able to see all of them, depending on which program you logged in as. Use the **Help** button located near the middle of the *Toolbar* to view the **Online Help** system.
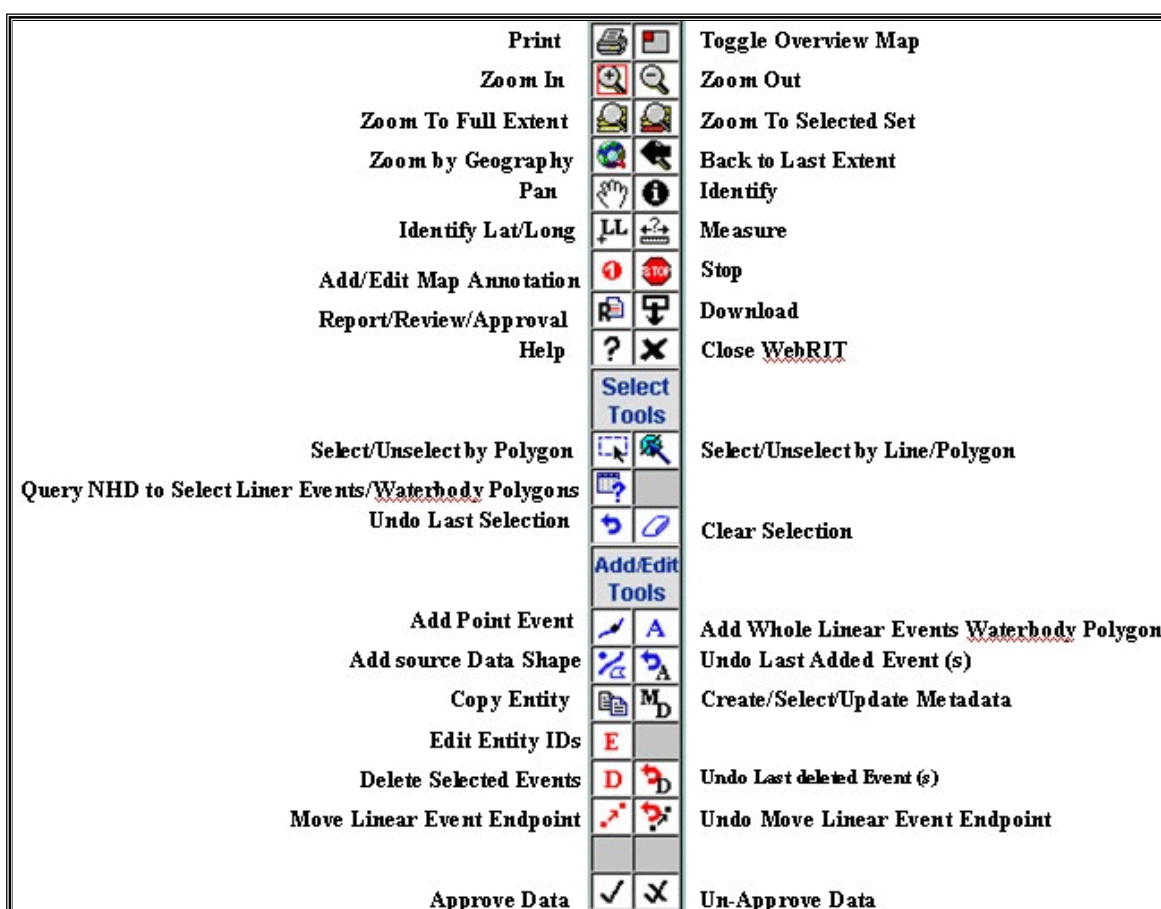
Figure 2. The WebRIT Toolbar and Tool Descriptions.

2.3   The Main Map

The *Map* is the central feature of the WebRIT, and it is your working area. Actions to zoom, pan, measure, and identify can all be accomplished by interacting with your *Map*. The *Map* is also where you will choose streams segments and other waterbodies that you want to store information about.
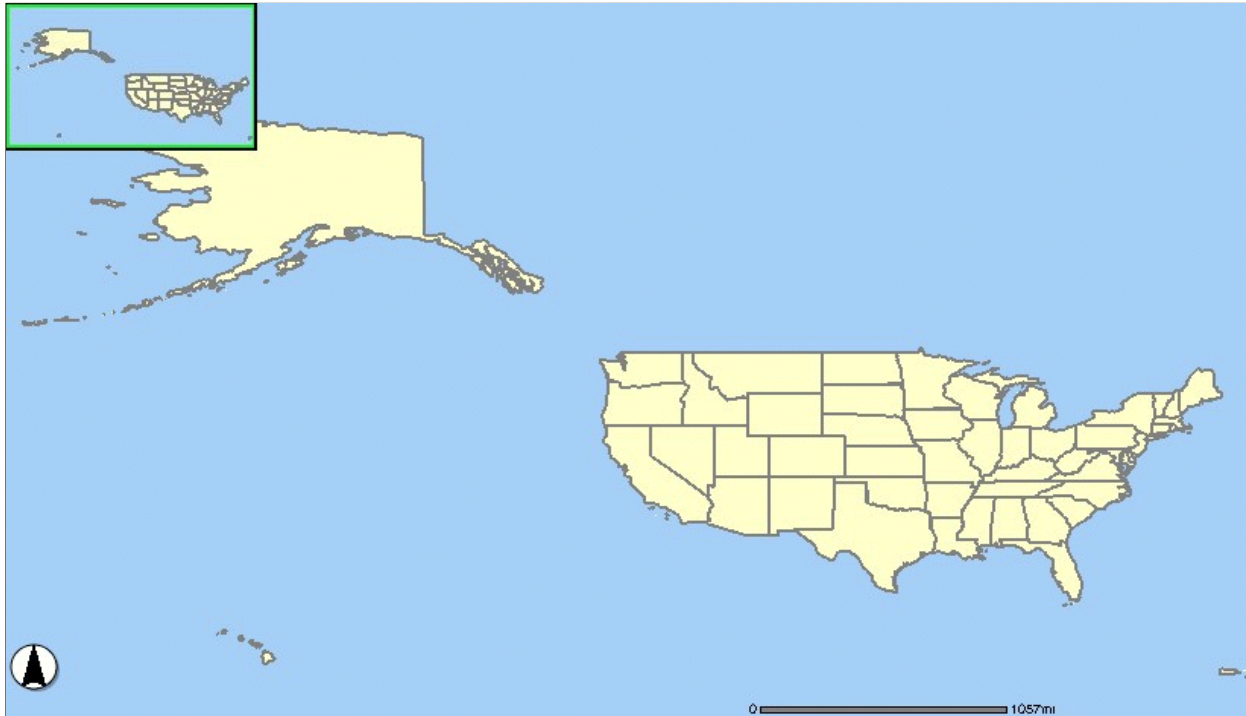
Figure 3. The Initial Map with Overview Map.

In the upper left corner of the *Map* is an Overview Map that is automatically displayed when you first open your browser (Figure 3). This small map is a location reference for your *Map*. You can turn the Overview Map on or off at any time by clicking the **Toggle Overview Map** button, shown below.

1.	Close the Overview Map by clicking the **Toggle Overview Map** button on the *Toolbar*.

2.4   The Layers List

The WebRIT allows you to view different layers of data. A "layer" is a type of geographic data that is available for display. For example, the "Cities" layer shows users the location and name of cities in WebRIT. The *Layers List* is located to the right of the map.

To make the layers visible, check the Visible box next to the layer you wish to view and the map will automatically refresh. Uncheck a layer you no longer wish to view. The number of layers that are visible and the size of the current view window affect the speed of the application. By checking the Visible box next to a group heading, all individual layers within that grouping will become visible.

2.5   Layers List Options

Figures 4a and 4b provide examples of how the *Layers List* can appear onscreen, depending on the options selected by the user. Figure 4a is the *Layers List* version that appears when individual layers next to a heading are collapsed, or hidden. This is the default setting. Figure 4b shows the version of the *Layers List* that will appear when you have "expanded" the individual layers next to that heading. To expand a layer, click on the gray arrow, and the names of specific groups within a layer will be displayed. You can collapse the *Layers List* again by clicking the gray arrow.

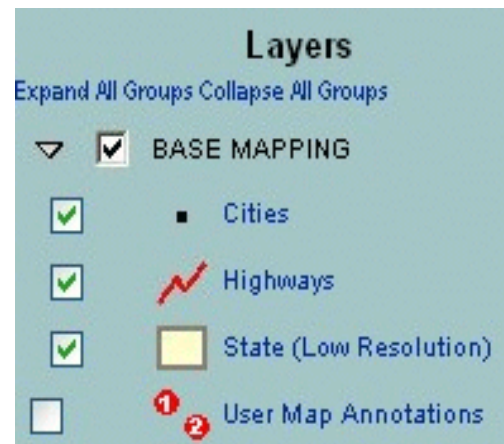**Figure 4a.** The Collapsed Layers List.   **Figure 4b.** The Expanded Layers List.

You can view metadata (information about the source of the layer) by clicking on the layer name in the *Layers List*. The **Select Layer to Identify on** dropdown box at the bottom of the *Layers List* allows you to select a feature layer to use with the **Identify** tool. You will learn more about the **Identify** tool later in the exercise.

3.0   Hands-on Exercise

The following exercise will show you how to use the various WebRIT tools. These steps are similar to how you will locate the NHD features and store information for your own projects.

In this exercise, you will locate the NHD stream or coastal reaches in your state (or the state assigned to you by the instructor) and assign identifiers that link to water quality information. Although this example is for a stream, you can use the same steps for locating and delineating a variety of coastal areas (e.g., if you wish to index the location of a specific beach).

3.1   Scenario

You have a mischievous young neighbor who recently visited Disney World. While he was at Magic Kingdom, he caught a baby alligator from the Kingdom's moat and decided to bring it home in his backpack. The alligator now resides in a stream in your backyard. This has triggered a series of alligator sightings and activities for which you need to store location information. For this exercise, you will locate and store data for the following events:

ID	Description	Complete
ST_1	The location of the Disney World alligator that has taken up residence in your backyard.	
ST_2	An alligator sighting from across town.	
ST_3	An alligator reported to be living in a nearby lake.	
ST_4	A reported alligator attack on a poodle.	
ST_5	The Invasive Species Task Force requests that the first alligator sighting ID be changed.	
ST_6	A 5th grader reported that an alligator ate his homework.	

You must store the location of this invasive species using the NHD. Your job is to locate and identify local surface waters with reported alligator activities.

3.2   Map Scale and Layers Display

Many *Toolbar* options are dependent on the level of detail shown in your *Map*; therefore, you will begin your search by zooming in to an area within your state of interest. As you zoom in, more layers will be displayed in your *Layers List*. As you might expect, zooming in also creates a more detailed view of a specified region. As you zoom in to your state, cities and interstates will become visible; however, NHD features will not be displayed until you zoom in to a smaller area. Figure 5 shows the *Layers List* as it will look when you zoom in to a scale where NHD becomes visible.
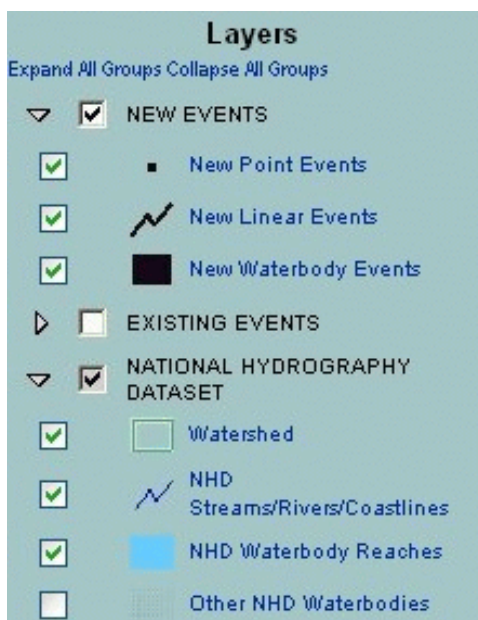
Figure 5. The Expanded Layers List
at scale where NHD is visible.

When the relative scale of your map is 1:290,000 or larger (e.g., 1:150,000), you will see that the NHD, Existing Surface Water Layers, New Point Events, New Linear Events, and New Waterbody Events appear on the list of layers on the right of the screen. Event layers are where your project location data are stored. Events are created when you select NHD reaches and assign program identifiers. The Event layers are like a look-up table between your water quality program IDs and the NHD. The NHD layers are the blue streams and lakes that are displayed on the map (NHD Streams/Rivers/Coastlines and NHD Waterbody Reaches). The NHD feature group in the *Layers List* can be expanded by clicking the gray arrow beside "NATIONAL HYDROGRAPHY DATASET." The Watershed boundary, NHD Streams/Rivers/Coastlines, NHD Waterbody Reaches, and Other NHD Waterbodies layers will appear in the *Layers List*. EXISTING EVENT layers contain program location information that was created for water quality programs, such as Impaired Waters, Assessed Waters, Water Quality Standards, and Beaches. Similarly, the EXISTING EVENTS layer, when visible in the *Layers List*, can be expanded to display the components of its feature group: Beaches, Impaired Waters, Assessed Waters, and Water Quality Standards. The EXISTING EVENTS layers are turned off by default.

To find out more information about a layer, simply click on the layer name to the right of the map. A description of the layer (metadata) will pop-up in a new browser window. When you are finished reviewing the metadata, close the browser window.

3.3   Zooming In

The fastest way to zoom in to your area of interest is to use the **Zoom by Geography** button. This button allows you to zoom by selecting a specific state, zip code, county, city, latitude and longitude, existing Entity ID, or existing annotation. In this exercise, you will use the WebRIT's **Zoom by Geography** button to zoom in to your county.

1.   Click on the **Zoom by Geography** button from the *Toolbar*. This button is shown below.

2.   When the **Zoom by Geography** screen opens, select County from the top menu. Enter the name of your county and state of interest.

U.S. Environmental Protection Agency

WebRIT WATERS: Locational Data Tool
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State   Zip   County   City   Lat/Lon EntityID Annotations

Zoom To County

1. Enter the first few letters of a county name	2. Optionally also select a state
Montgomery	MD

Submit Query

3.   Click on the **Submit Query** button.

Zoom To County

| 1. Enter the first few letters of a county name	2. Optionally also select a state
	Select One

Submit Query

Zoom To Results

1 feature(s) match your query

Rec	COUNTY FIPS	NAME	STATE FIPS	STATE
1	24031	Montgomery	24	MD

4.   Your county should be displayed in the resulting table.

5.   Click on the **Zoom To Results** button. Click **OK** on the pop-up box that asks you to wait for the map to display.

6. The map will take a few moments to reformat at the new scale. The resulting map will show the area of the county you selected.
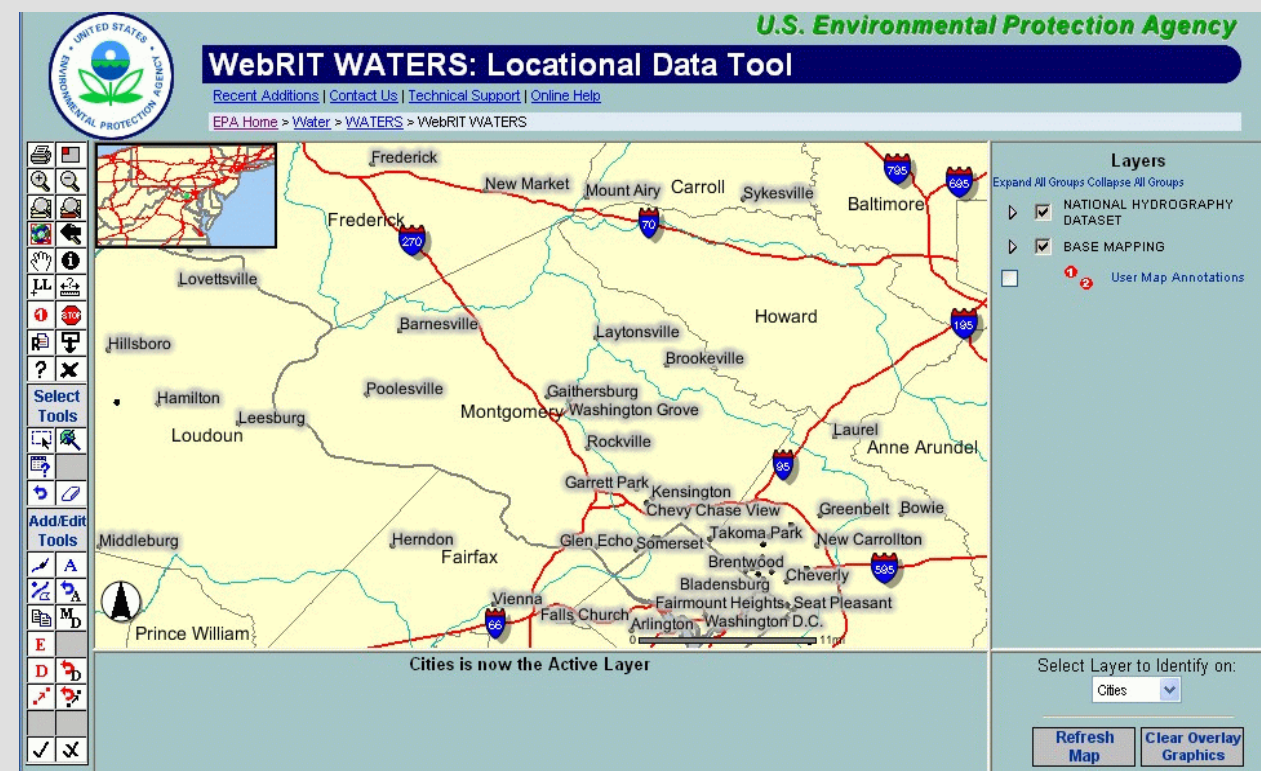

After zooming in to your county, you must continue zooming in to get to your area of interest. Another method to locate the NHD is to use the **Zoom In** tool to zoom to that area on your map.

1. Click on the **Zoom In** tool, which is shown below, from the *Toolbar*. A red box will appear around the tool you have selected.

2. Place your mouse cursor over your map. Click the left mouse button and drag the mouse to draw a box around the area of your county where your town is located. In this example, the user has found an alligator in Takoma Park, Maryland, located outside the northeast border of the District of Columbia.

3. Select the **Pan** tool from the *Toolbar*. Click and drag the **Pan** tool in the *Map* to move and re-center the view to the area where your neighborhood is located.

4.   Continue using the **Zoom In** tool until your *Map* has a level of detail similar to that shown in the figure below. You should be able to see county names in plain black text.
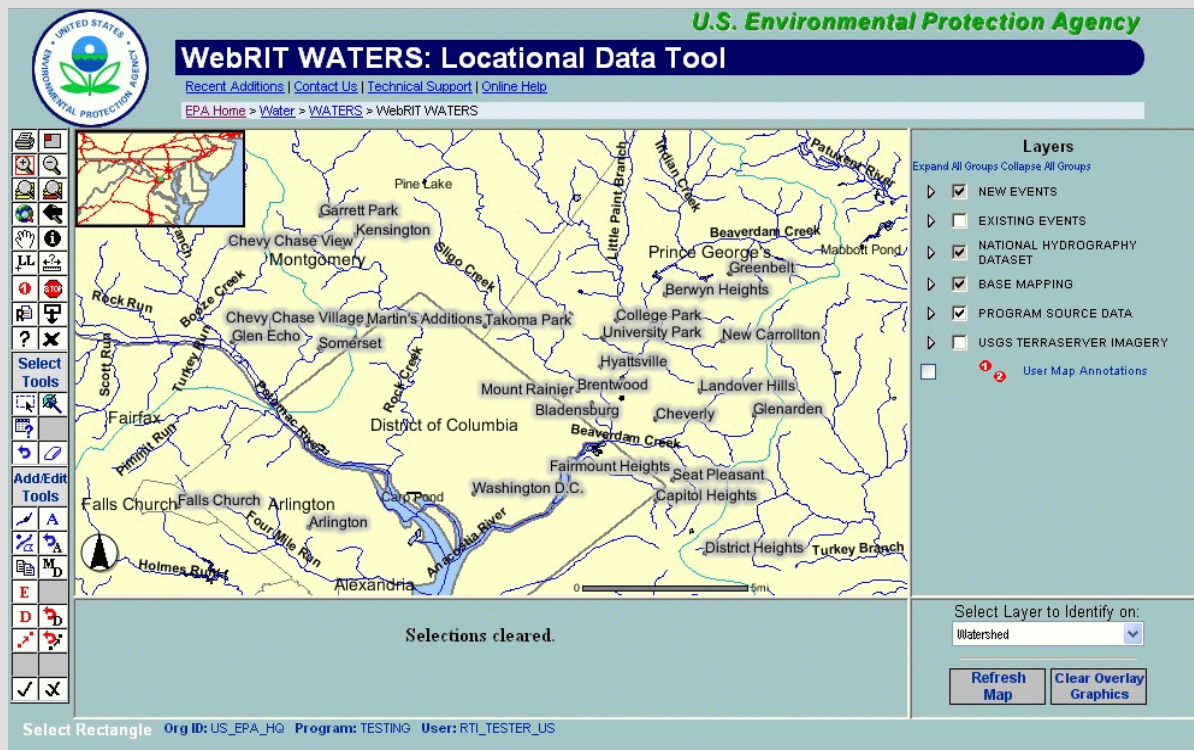

5.   If you make an error while zooming, you may use the **Back to Last Extent** button, which is shown below, to return to your last view extent.

### 3.4   Alternative Zooming Method

Now we will present a slightly different method to use to zoom. Instead of drawing a box around your area of interest, in the next section you will use your mouse to click on a specific area. When a single location is selected, the new area of detail in the *Map* will center around this point.

1. With the **Zoom In** tool selected, place your cursor on the point of interest (e.g., where your town name appears) and click once. Repeat this procedure until you see all of the layers shown in the example below, including the blue NHD stream reaches.
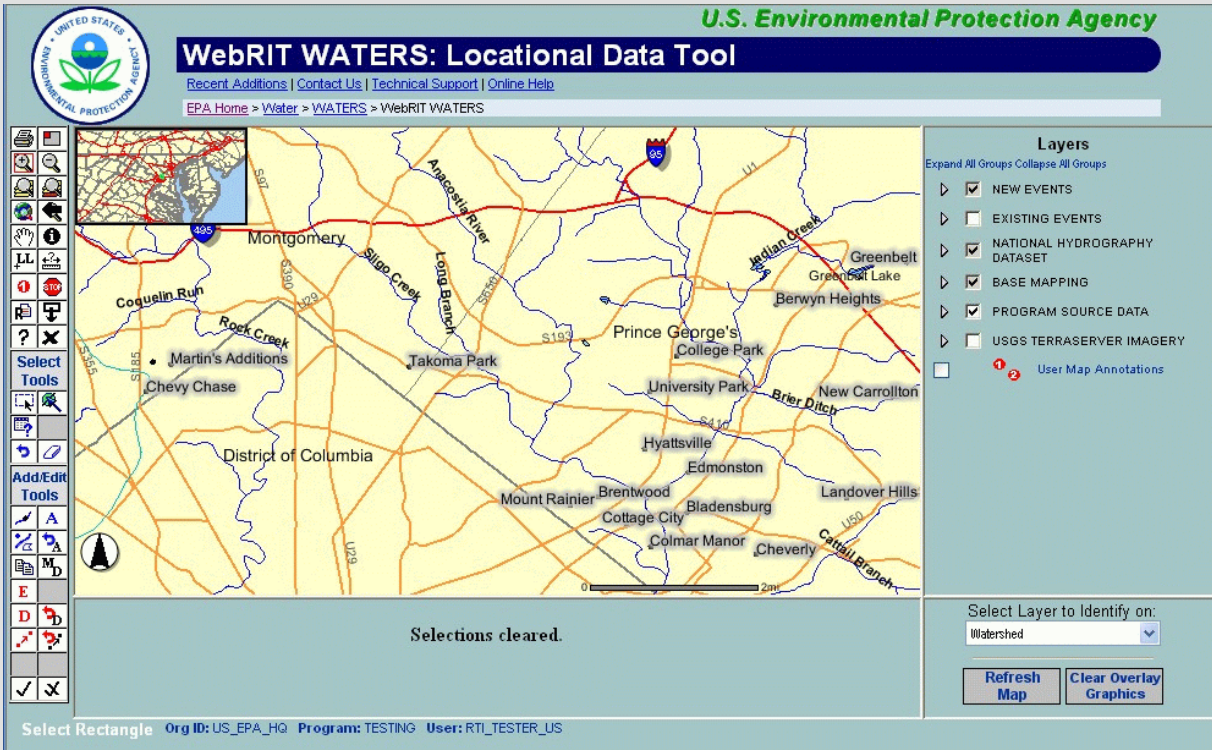
2. Expand the BASE MAPPING layer by clicking on the gray arrow beside it in the *Layers List*. If the "All Roads" layer is not yet visible, zoom in by clicking on the town name until the layer appears.

3. As you zoom in, the "Major Roads" layer will change to the "All Roads" layer. When the "All Roads" layer appears in the *Layers List*, check the box beside it if has not already been checked. Continue zooming in until streets appear as thin orange lines.

4.   You should now be able to locate a familiar stream in your town. Experiment with zooming in, zooming out, and using the **Pan** tool to locate your area of interest.
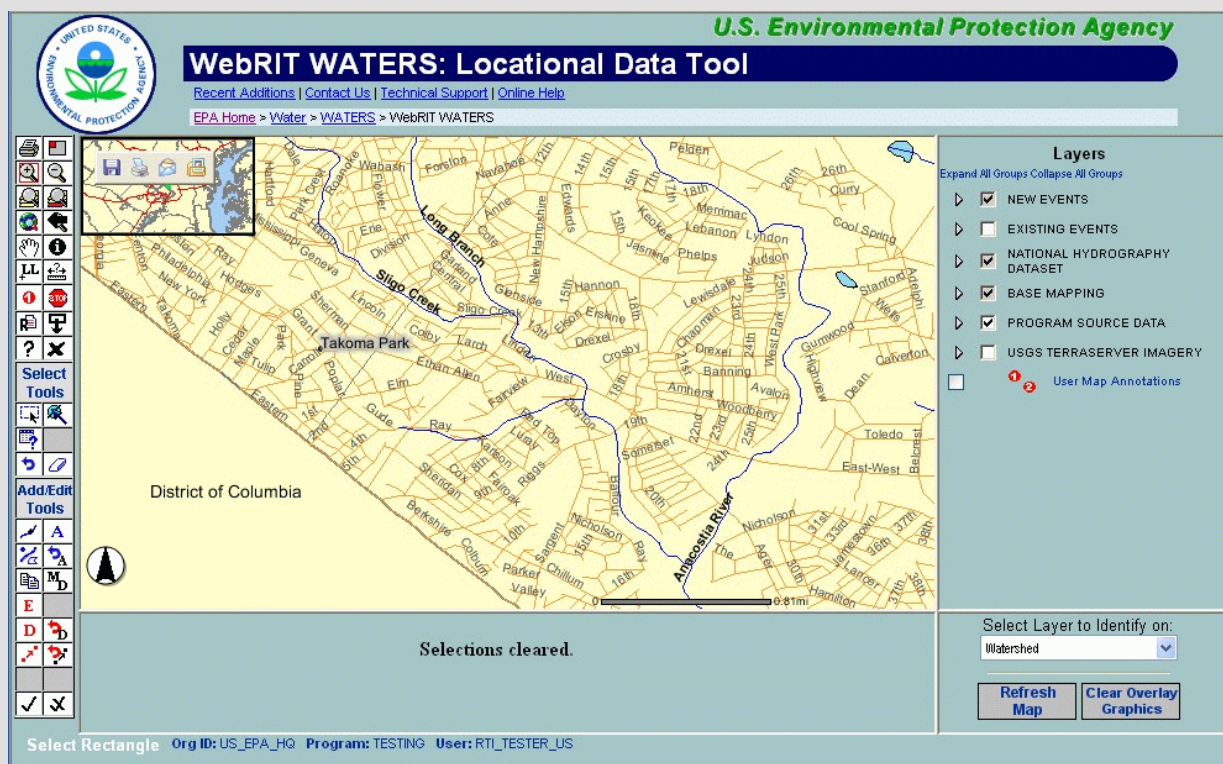
3.5   Selecting the NHD

Once you zoom in to your local area of interest, you should see the blue lines representing the NHD on your map. You can then select the NHD reaches and create new events to store the location of your local invasive species.

1.   Locate the area of the stream you want to index. To select the stretch of the NHD, choose the **Select/Unselect by Rectangle** tool, which is shown below, from the Select Tools toolbar.

2.   Once you select this tool, you must choose a layer from the dropdown box labeled **Layer**, which is found below the map. Choose "NHD Streams/Rivers/Coastlines" from the dropdown box.

In this example, the user wants to index the portion of Sligo Creek that runs from Jefferson Road to the confluence with Long Branch.

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1.   Click your left mouse button and hold it down as you drag a small rectangle over the area of the stream you want to select. When you release the mouse button, the stream reach(es) that correspond to this area will be highlighted yellow, and the associated reach code(s) will appear in a table below your map.
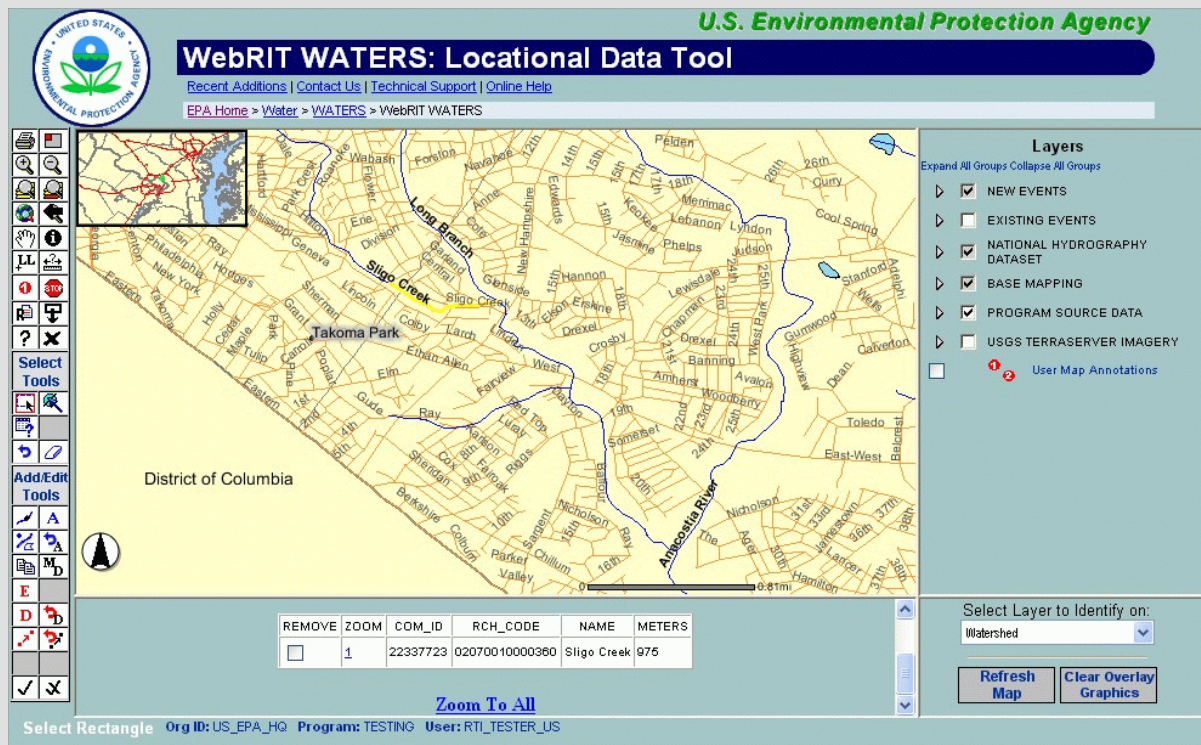
The **Selection** tools function with the NHD like an "on/off" switch. If you want to remove a reach from your selection, simply click on it again with the **Selection** tool and the reach becomes unselected. Be careful when making additional selections. If your **Selection** box accidentally touches already-selected reaches, it will turn them "off." Therefore, you may need to zoom in to a dense area in the NHD when attempting to select a specific reach.

3.6   The Selection Table

Figure 6 shows the table that appears below the map. This table lists the number of stream reach codes selected. It also provides the name (if available) of the streams or waterbodies selected and the length of each feature in meters.

There are 5 features currently selected on the NHD Streams/Rivers/Coastlines layer.
(5 features were added to your selected set)

REMOVE	REC/ZOOM	COM_ID	RCH_CODE	NAME	METERS
☐	1	22337457	02070010000360	Sligo Creek	6719
☐	2	22337723	02070010000360	Sligo Creek	975
☐	3	22337731	02070010000359	Sligo Creek	1274
☐	3	22337731	02070010000359	Sligo Creek	1274
☐	4	22337755	02070010000358	Sligo Creek	2054
☐	5	22338427	02070010000360	Sligo Creek	2558

Figure 6. The Selection Results Table.

You can also use the table to remove reaches from your selection. In the table below the *Map*, click the box under the "REMOVE" heading next to the incorrect reach(es). Then click the **Remove From Set** button to unselect the reaches that you do not want to index.

3.7   Adding Metadata

Now that you have selected one or more stream reaches, you are ready to insert metadata and new events.

1.   From the right column of the *Toolbar*, select the **Zoom to Selected Set** tool, which is shown below. (Alternatively, you can use the **Zoom to All** feature that is located below the selection results table.)

This tool will zoom the map in or out to the full extent of all reaches that are selected (highlighted in yellow). The **Zoom to Selected Set** tool is very useful if you wish to double check your selection of reaches.

2.   After using the **Zoom to Selected Set** tool, check to make sure the selected reaches are those that you want to identify as Invasive Species Habitat. Use the **Select/Unselect by Rectangle** tool to adjust the selection, if necessary. *Please note: If you have accidentally used the **Zoom to US Extent** tool, which is located directly to the left of the **Zoom to Selected Set** tool, do not panic. Simply choose the correct tool. The stream reaches will remain selected, and the tool will work from any scale perspective.*

3.   To add the selected reach(es) as events, select the **Add Whole Linear Events/ Waterbody Polygons** tool from the *Add Tools* toolbar. This tool is shown below.

4.   Because you have not yet created metadata, a message box will appear that instructs you to do so. Click **OK**, and the Metadata screen will appear.

You only have to complete your metadata once during your WebRIT session; however, if something about your metadata should change during your WebRIT session, such as the source you are using, you can click on the **Manage Metadata** button, which is shown below, to either create new metadata or select/update existing metadata.

1.   Click on the **Create New Metadata** button. *Please note: If you are using the WebRIT to reach index your own program data, you can work with metadata you created in a previous session by clicking the **Select/Update Existing Metadata** button. The **Create New Metadata From Existing Metadata** button allows you to create a new entry using information from a previous session.*

2.   When the Metadata Information screen appears, the following sections of metadata must be filled out: General Info, User Info, and Source Info.
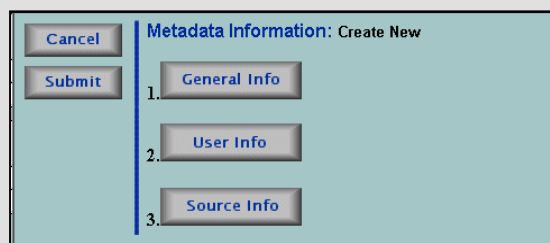
Please note: Depending on what program you use to log in to WebRIT, some of this metadata may already be filled out.

3.   Click on the **General Info** button to begin filling out metadata according to the example below. All of the fields marked with an asterisk (*) require information.

4.   After you have filled out the information, click on the **Accept** button on the left side of the form.

5.   Click on the **User Info** button. Fill out the metadata with your name, phone number, address, and other contact information. Click the **Accept** button.

6.   Click on the **Source Information** button.

This section of the metadata allows the user to enter information for up to five different sources. Source information is required for at least one source (the total percent contribution of all sources must equal 100 percent).

7.   Enter source information according to the following example, and then click the **Accept** button.

8.   Once you have completed all three sections, click the **Submit** button to enter and save your metadata.

9.   A message will appear that reads "Metadata has been created for Points, Lines, and Polygons." Click the **OK** button.

3.8   Online Help

For in-depth information about metadata, go to the **Online Help** link at the top of your WebRIT screen. This link will open a new window with helpful instructions for all features of the WebRIT.

1.   Click the **Online Help** link at the top of the WebRIT screen.

2.   From the **Help** topics list, click on **Metadata Help** (under **Toolbar Help**) to find tips for entering metadata.

3.   When you are finished reviewing this information, close the **Help** browser window.

3.9   Adding Events

After submitting metadata, you will see a screen that allows you to choose and assign the correct ID to the reaches you have selected. This screen will only appear after you have added metadata and clicked the **Add Whole Linear Events** tool.

1.   If the following screen, prompting you for Entity ID, is not visible click the **Add Whole Linear Events** tool.

3.10   The Entity ID Information Screen

At the bottom of the screen is where you enter the Entity ID, which is the unique identifier from your program database. This screen has a dropdown list that allows you to choose the correct ID from a list that is generated according to the User ID that you used to log in to WebRIT and the organization that you chose in Step 1 of the Entity ID screen. For example, in this tutorial you are logged in to WebRIT with a training ID. In the tutorial example, the Organization is Maryland. Choosing "MD" from Step 1 filters the IDs that you can pick from the ID: dropdown list in Step 3 (Figure 7). The IDs that you are able to choose from are the training IDs associated with Maryland.

Figure 7. The Entity ID Information Screen.

When you are logged in to WebRIT with your own User ID and Password and you are entering your own data, you will be able to choose the IDs that relate to your program data. Step 2 is optional except for those programs that have more than 300 IDs to choose from. For programs with more than 300 IDs, Step 2 allows you to further filter the list in Step 3 by entering part of a name or ID. You may skip Step 2 while working through this tutorial or if your organization has few IDs to choose from.

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1.   In the Enter ID Information for the Item Being Reported screen, use the dropdown box in Step 1 to select your organization. Skip to Step 3.

The Name and ID lists in Step 3 are filtered according to your WebRIT log in and the Organization you choose in Step 1. They contain only the ID and name options for waterbodies that are relevant to your organization.

2.   Use the **ID** dropdown box to choose the correct ID for the stream reaches you are indexing. Choose "ST_1" (where "ST" represents the abbreviation for the state you are working in).

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3. You should now see a table below the map that shows your ID selection. If you are satisfied that you have selected the correct ID, click the **Save** button to finalize the creation of new events for the selected stream reaches.

All of the information about the new events should now appear in a table below the map.

Congratulations! The location of the invasive alligator species has been stored as a New Event.

3.11 Displaying the Symbology for New and Existing Events

Notice that the area you delineated is shown in a new color. This data and other locations you identify, are stored in the NEW EVENTS layer. This layer can be turned on or off using the check box in the *Layers List*.

You can view the legend symbology (the unique colors for each ID) for new and existing events by clicking on the black symbol in the legend. This will display a detailed legend with different events represented as different colors. Figure 8 shows the legend symbology for New Linear Events.
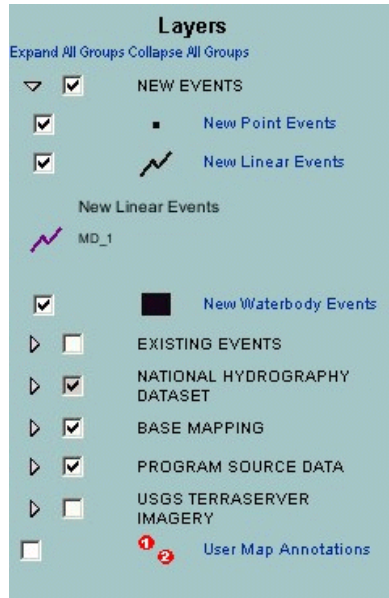
Figure 8. Displaying the New
Linear Events Legend.

The following box indicates your progress in the tutorial.

ID	Description	Complete
ST_1	The location of the Disney World alligator that has taken up residence in your backyard.	X
ST_2	An alligator sighting from across town.	
ST_3	An alligator reported to be living in a nearby lake.	
ST_4	A reported alligator attack on a poodle.	
ST_5	The Invasive Species Task Force requests that the first alligator sighting ID be changed.	
ST_6	A 5th grader reported that an alligator ate his homework.	

3.12   Other Selection Methods

NHD reaches can be selected and added to your project with other *Toolbar* options from the *Select Tools* toolbar, including **Select/Unselect by Line/Polygon** and **Select/Unselect by NHD Query**. The **NHD Query** tool is a good option if you know the waterbody name or the specific reach code. We will practice using both these selection methods so that you may later choose the method that works best for you.

3.13   Select by NHD Query

1.   Whenever you are working with the WebRIT, you must be careful to first erase any current selections before beginning a search for new waterbodies. If any NHD lines or polygons are selected, click on the **Clear Selection** button, which is shown below, from the *Toolbar*. Any highlighted NHD selections will clear.

2.   A friend from across town has found an alligator swimming in a stream near her house— it looks like the invasive species is spreading! Now you will also need to reach index this other stream. Select the **Pan** tool, which is shown below, from the *Toolbar*.

3.   Make sure that you can still see the blue lines of the NHD, which indicate you are at an acceptable scale range to perform an NHD query.

You will now use the **NHD Query** tool to select NHD reaches. You can query for reaches based on a reach code or a reach name for either of the NHD layers (streams or waterbodies).

1.   Click on the **NHD Query** tool, which is shown below, from the *Toolbar*.

2.   Once you have selected this tool, the **NHD Query** form appears below your *Map,* along with the **Cancel**, **Select**, and **Select & Zoom** buttons.

2.   Choose "NHD Streams/Rivers/Coastlines" from the **Layer to Select On** dropdown list.

3.   Next, select a Reach Code or Reach Name from the other dropdown lists, and click either the **Select** button or the **Select & Zoom** button to perform the query.

If you click the **Select** button, the features will be selected, but your map will not change. If you click the **Select & Zoom** button, the features will be selected and your map will be zoomed in to the selected set. When the features are selected, you should see the results highlighted, as in the following example (the query was for Reach Name = "Long Branch," and the WebRIT should highlight the NHD reach with that name in the *Map*.

4.	Reach index your selected stream by clicking the **Add Whole Linear Events/Waterbody Polygons** button from the *Add/Edit Tools* toolbar and choose ID "ST_2" from the **ID** dropdown list. When the event information table appears, click the **Accept** button.
5.	Oops! Your friend made a mistake—she did not find an alligator in that stream, it was just a big green salamander. To undo the last step, click the **Undo Last Added Event** button on the *Add/Edit Tools* toolbar. This button is shown below.

ID	Description	Complete
ST_1	The location of the Disney World alligator that has taken up residence in your backyard.	X
ST_2	An alligator sighting from across town.	X
ST_3	An alligator reported to be living in a nearby lake.	
ST_4	A reported alligator attack on a poodle.	
ST_5	The Invasive Species Task Force requests that the first alligator sighting ID be changed.	
ST_6	A 5th grader reported that an alligator ate his homework.	

Although the NHD query method of selecting NHD reaches is quick, you are required to know the names or codes of the reaches you want to select in advance.

3.14 Select by Line/Polygon

For your final selection, you will use the **Select/Unselect by Line/Polygon** tool to reach index a lake for your project. This tool allows you to select NHD reaches by drawing a line or a polygon. All NHD reaches that touch the line you create or fall within the polygon you create will be added to your selection.

1.	You have credible information that another alligator has taken up residence in a nearby lake. Find the lake where the new alligator is living, zoom in or out, and use the **Pan** tool to move around the *Map* and look for the lake.
2.	When you have located the lake, choose "NHD Waterbody Reaches" from the **Layer to Identify On** dropdown box at the bottom of the *Layers List*. Click on the **Identify** tool, shown below, from the *Toolbar*.

3.   Click directly on the **Lake** feature. WebRIT will display information about the selected NHD feature in a table, including the reach code, name, and size of the feature.

4.   Click on the **Select/Unselect by Line/Polygon** tool, which is shown below, from the *Select Tools* toolbar.

5.   Buttons will appear below the map. Choose "NHD Waterbody Reaches" from the **Layer to Select On** dropdown box.

> **Select with Line or Polygon**
>
> If selecting using a polygon, you must draw your polygon in a counter-clockwise direction.
>
> **Layer to Select On:**
>
> NHD Waterbody Reaches
>
> Restart
> Delete Last Point

The **Select/Unselect by Line/Polygon** tool allows the user to select specific stream and lake reaches. You will use lines or polygons to define the waterbody you want to index. For example, you can draw a line through the lake or a polygon around the lake to select it.

When using the **Select/Unselect by Line/Polygon** tool, remember that selection tools work like an "on/off" switch. Any reach touched by the defined line or polygon extent will be selected. If a reach within the defined area is already selected, it will be removed from the selection set.

1.   To select the lake, move your cursor over the *Map*. Click near your chosen lake to create a single point. A red dot should appear where you clicked. It may take a moment for your map to re-draw.

2.   Create at least one more point so that a line between your first point and your second point overlaps some portion of the lake (see example below). The red line between points will appear after you click to create your second point. Alternatively, you can click numerous times around the lake so that your points create a polygon that encloses the lake.

3.   If you make a mistake, click the **Restart** button to start over or click the **Delete Last Point** button to remove the last point you created.
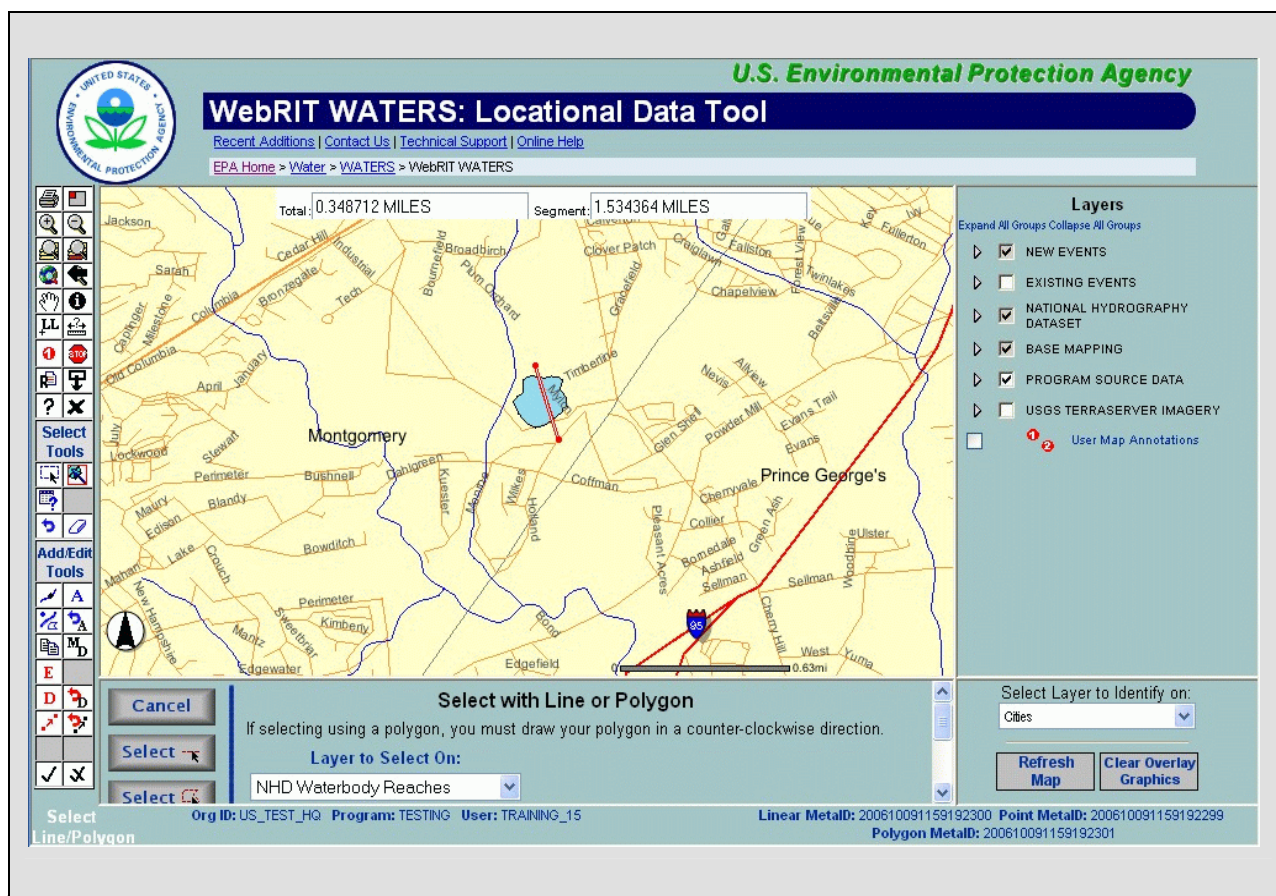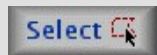
When you are satisfied with your lines, you will click one of the two **Select** buttons.

1. If you have made a line with two points, as in the example above, you would click the first **Select** button, which is shown below, which allows you to complete the line and select the feature(s). Reaches that intersect the line you drew will be selected.
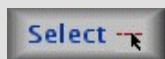
2. If you had drawn multiple lines, you would click the second **Select** button, which is shown below. This allows you to complete the polygon and select the feature(s). Reaches that touch the polygon will be selected.

After clicking a **Select** button, the lake should be highlighted yellow and the information about the reach(es) you selected will appear in a table below the map (see the following example).

1.	Now click the **Add Whole Linear Events/Waterbody Polygons** tool, which is shown below, and follow the usual steps to add this waterbody reach to your indexing project.
2.	Choose the ID "ST_3" for this waterbody.

ID	Description	Complete
ST_1	The location of the Disney World alligator that has taken up residence in your backyard.	X
ST_2	An alligator sighting from across town.	X
ST_3	An alligator reported to be living in a nearby lake.	X
ST_4	A reported alligator attack on a poodle.	
ST_5	The Invasive Species Task Force requests that the first alligator sighting ID be changed.	
ST_6	A 5th grader reported that an alligator ate his homework.	

3.15 Creating New Metadata from Existing Metadata

WebRIT allows you to change the metadata records that you are using at any time during your WebRIT session. For instance, you may want to switch from indexing one type of occurrence to another, where different metadata may be appropriate. You could create new metadata from scratch like you did earlier in this exercise. However, if only a couple of small changes are required to some existing metadata, you can use WebRIT's capability to create new metadata from this existing metadata, thus saving some typing.

Because there have been rumors of alligator attacks in the area, you decide that you might as well create a new metadata entry in preparation of storing locations for any reported attacks. You will use the **Create New Metadata from Existing Metadata** button.

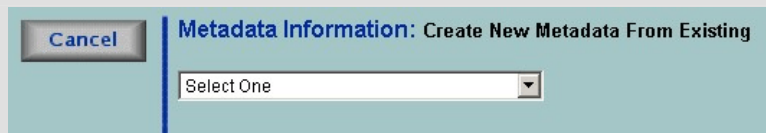1. Click the **Manage Metadata** button, which is shown below.

    *Please note: Unlike when you first entered metadata, clicking the **Manage Metadata** button will bring up the following four button choices:*

Create New Metadata	Creates new metadata
Create New Metadata from Existing Metadata	Allows you to create a new entry using information from a previous session
Select/Update Existing Metadata	Allows you to work with metadata you created in a previous session
View/Update Current Metadata	Allows you to work with the metadata entry that is currently in use

2. Choose the **Create New Metadata from Existing Metadata** button.

3. Select the metadata from which you want to create your new metadata. In this case, it would be the metadata that you have been using for this exercise. *Hint: The metadata ID consists of a date and time stamp, followed by a four- digit number. If your metadata was created on March 5, 2004, at 3:45:20 p.m., your metadata ID might be 200403051545201334, where everything prior to 1334 is the date and time stamp.*

4. In this case, you will only update your general information. Click on the **General Info** button.

5.   Change the **Metadata Title** to "Alligator Attacks." Change the **Abstract** to "Locations where alligator attacks have been reported." Change the **Keywords 1** and **2** to "Alligator" and "Attacks," respectively.

6.   Click the **Accept** button, then the **Submit** button.

You have now successfully created a new metadata entry for Alligator Attacks from your original entry for Invasive Species. Your current metadata is now the Alligator Attacks entry.

3.16   Creating a Point Event

There are certain times when you may want to index a waterbody that does not appear in the NHD. You may also want to index only one specific location along a stream or coastline, rather than an entire reach (e.g., to mark the location of a point discharge or to mark where a sample of beach water was collected). In these situations, you would create a Point Event. Creating a Point Event is very similar to creating Linear and Waterbody Events.

1.   Find a location along an NHD reach where you would like to add a point (for example, perhaps you would choose a spot where an alligator recently attacked a poodle). Click on the **Add Point Event** tool, which is shown below, from the *Add/Edit Tools* toolbar.

2.   Click on the location along an NHD reach where you would like to add a point, or type in a latitude and longitude in the text boxes below the map, then click the **Submit** button. If you choose a point that does not fall on an existing NHD reach, the newly created point will be "snapped" to the closest NHD reach.

3.   Then follow the same procedures that were used to create a Linear and Waterbody Event. Select the ID "ST_4" from the **ID** dropdown list. Accept your entry by clicking on the **Save** button. Your selection is presented in a table at the bottom of the screen.

The reported poodle attack was an error. It turns out the alligator only snagged a stuffed toy left behind by a child.

4.   To delete the Point Event, select the **Select/Unselect by Rectangle** tool, then select **New Point Events** from the **Layer to Select On** dropdown box.

5.   Use your mouse to drag a box around the point you want to delete. Next, click the **Delete Selected Events** tool, which is shown below.

You can also use the **Delete Selected Events** tool to delete Linear and Waterbody Events.

ID	Description	Complete
ST_1	The location of the Disney World alligator that has taken up residence in your backyard.	X
ST_2	An alligator sighting from across town.	X
ST_3	An alligator reported to be living in a nearby lake.	X
ST_4	A reported alligator attack on a poodle.	X
ST_5	The Invasive Species Task Force requests that the first alligator sighting ID be changed.	
ST_6	A 5th grader reported that an alligator ate his homework.	

3.17   Renaming New Events

A Invasive Species Task Force member has asked that you submit data concerning your first location entry regarding the alligator that was sighted in a stream in your backyard; however, he or she has requested that you change the ID that you assigned to your location data to one that is useful to the Task Force. WebRIT allows you to change the ID that you assigned without deleting and re-indexing the event.

1.   Click on the **Edit Entity ID** tool, which is shown below.

2.   From the **Edit Entity ID** dropdown box, select the Entity ID that you want to change, which is the first event that you created in the exercise, "ST_1," and click the **Continue** button.

3.   Under **Enter the New Information for the Item Being Reported**, enter your organization in the top dropdown box. Filtered dropdown lists consisting of only names and IDs that are relevant to your organization will then appear. Use the **ID** dropdown box at the bottom to choose the Entity ID that you wish to rename the event to. In this case, you will choose "ST_5."

Please note: When working with your own data, you may wish to use the name dropdown box to enter the name associated with the new Entity ID instead of choosing an ID.

4.   Once you have chosen an Entity ID, an **Accept** button will appear. Click the **Accept** button. You have now successfully changed the Entity ID of this event from "ST_1" to "ST_5."

ID	Description	Complete
ST_1	The location of the Disney World alligator that has taken up residence in your backyard.	X
ST_2	An alligator sighting from across town.	X
ST_3	An alligator reported to be living in a nearby lake.	X
ST_4	A reported alligator attack on a poodle.	X
ST_5	The Invasive Species Task Force requests that the first alligator sighting ID be changed.	X
ST_6	A 5th grader reported that an alligator ate his homework.	

3.18 Refining Your Location

Sometimes the location data you want to store cannot be accurately represented with the start and end points of the NHD reaches. You can use the **Move Linear Event End Point** tool to change the extent of your Linear Events. Creating a partial Linear Event only requires a few additional steps.

1. Use one of the **Select** tools from the toolbar to choose the event you just renamed to "ST_5."

    *Please note: **Move Linear Event Endpoint** will work when you have only one event selected. In the Selection Results table below the Map, if there is more than one entry, you can click boxes under the **REMOVE** heading and click **Remove from Set** to modify the selection so that only one event is selected.*

2. Click on the **Move Linear Event End Point** tool, which is shown below, under the *Edit/Delete Tools* toolbar.

3. Click on the *Map* to indicate where the new end point for the Linear Event should be. The end of the Linear Event should move to the point that you clicked on.

4. If WebRIT does not move the end point you intended to move, you can use the **Undo Move Linear Event End Point** tool, which is shown below.
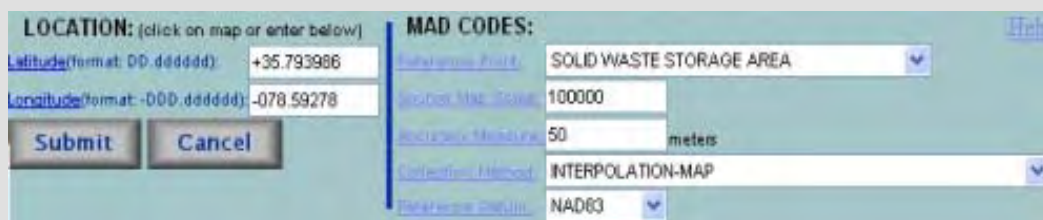

4. WebRIT will then ask if you would like to move the other end point or undo the entire procedure.

3.19 Add a Source Data Shape

The WebRIT allows the user to add points to his or her map that are not related to NHD and have no metadata. These points can represent the position of source data prior to reach indexing the points to NHD, or they can be used to represent the locations of different places or phenomena on the *Map* that cannot be reach indexed to NHD.
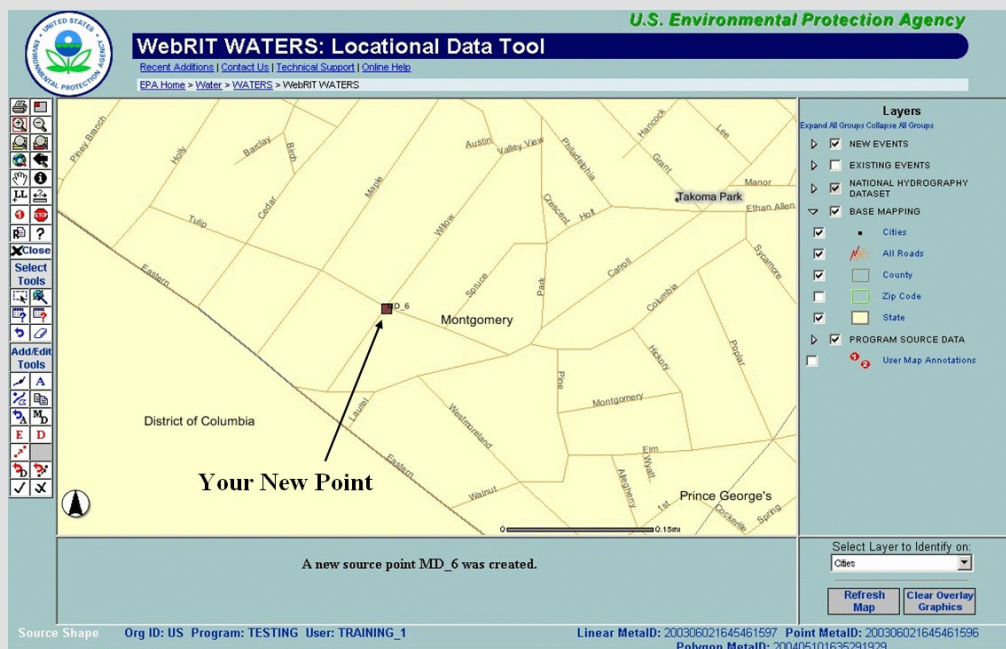
A 5th grader in the area reported that an alligator ate his homework while he was waiting for the morning school bus. You decide that you should map this occurrence in the WebRIT, even though you cannot link it to the NHD reach file. To do this, you will use the **Add a Source Data Shape** tool.

1. Find the intersection in your area where the school bus stop is located, and zoom in to a scale of about 1:8,000. Please note: You must be zoomed in to a scale larger than 1:290,000 for the **Add a Source Data Shape** tool to work.

2. Click on the **Add a Source Data Shape** button, which is shown below.

3. Click the point on the *Map* that represents the school bus stop with your cursor, or enter the latitude and longitude in the input boxes. You must also enter Method, Accuracy and Description (MAD) codes for the Source Point. If you click on the *Map* to enter the point, all the MAD codes except Reference Point will be populated for you. If you choose to manually enter the **Latitude** and **Longitude** into the text boxes, you will have to enter values for all of the MAD codes yourself.
4. Click the **Submit** button.

5. You will be prompted to enter the ID information just like you did when adding a Point Event. Choose your organization in the **Organization** dropdown list. Filtered dropdown lists will then appear that contain the names and IDs that are relevant to your organization. Select the ID that you want to apply to your point. In this case, choose "ST_6."

6.   Click the **Save** button. The point that represents the bus stop is now represented in the Program Source Data layer.

ID	Description	Complete
ST_1	The location of the Disney World alligator that has taken up residence in your backyard.	X
ST_2	An alligator sighting from across town.	X
ST_3	An alligator reported to be living in a nearby lake.	X
ST_4	A reported alligator attack on a poodle.	X
ST_5	The Invasive Species Task Force requests that the first alligator sighting ID be changed.	X
ST_6	A 5th grader reported that an alligator ate his homework.	X

3.20   Other WebRIT Features

There are three additional WebRIT features that can help you as you work. The User Annotations feature allows you to mark places on the map and attach names or comments. The USGS Terraserver Imagery layer allows you to view the USGS DRG map and the USGS DOQ photo of the map area. The **Report/Review/Approval** button allows you to generate a report of the entities that were added, edited, or deleted during the current WebRIT session.

3.21   User Annotation

1.   To add a User Annotation, click the **Add/Edit User Annotation** button, which is shown below, on the *Toolbar*.

2.   Click the **Add New** button. Please note: If you are using a training ID that has already been used, a User Annotation may already exist.

3.   Click either the location on the *Map* where you want the User Annotation marker to appear or enter information in the **Latitude** and **Longitude** fields. *Please note: If you click on the map, the **Latitude** and **Longitude** will automatically be entered into the appropriate boxes.*

> Please either click the map where you wish to place a marker or enter the coordinates in the form below.
>
> **Identifier:**   **Description:**
>
> **Latitude**(format: DD.dddd):
>
> **Longitude**(format: -DDD.dddd):   Submit   Cancel

4.   Enter an **Identifier**. The User Annotation marker will be labeled with this Identifier in the summary table.

5.   Enter a **Description**. This information will appear with the Identifier in the summary table.

6.   Click **Submit**. The annotation will appear on the *Map* and the Identifier and Description will appear in the summary table.

Delete	Edit	Marker	Identifier	Description
D	E	1	Note 1	My first annotation

You can delete and edit the User Annotation by clicking on either the **Delete** or **Edit** button associated with that annotation in the summary table.

3.22   USGS Terraserver Imagery

1.   To view the **USGS DRG** of the *Map* area, zoom in until the USGS TERRASERVER IMAGERY layer is visible in the *Layers List*.

2.   Click on the gray arrow beside the name of the layer to expand the layer in the *Layers List.*

3.   Check the box beside **USGS DRG**, and the map will refresh with the topographic map as a layer. For more information on viewing the USGS [TERRASERVER?] IMAGERY, see the online help **General Tips/Helpful Hints** section.

4.   You can zoom in to see more detail. You can also zoom out, but keep in mind that if you zoom out too much, the layer will no longer be visible.

5.   You can use the same method to view the **USGS DOQ** photo; however, you cannot view both of these layers at one time.

3.23   User Report

The **User Report** button allows you to print out various WebRIT reports, such as User Session Reports, User History Reports, User Summary Reports, and Organization Summary Reports. The reports that are available to you are based on your log in. Not all users will have access to all reports.

1.   Click on the **Report/Review/Approval** button, which is shown below, and the report will open.

2.   The WebRIT Report Tool screen will appear, and from this screen you can chose various user reports.

3.   Click the "+" sign by the User Session Report.

4.   Click the **Create Report** button. WebRIT will create a PDF User Report. Close the PDF document by clicking the "**X**" in the upper right corner.

3.24   Download Tool

The **Download** tool allows a user to download a shapefile of the locational data that he or she has entered into WebRIT.

1.   Click on the **Download** tool.

2.   You will be redirected to the **Download** screen. You must select a state for the download to occur.
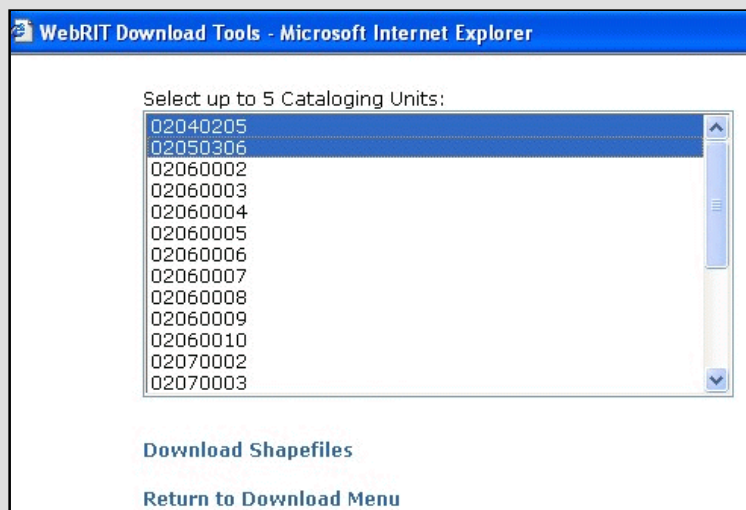
3.   You will be redirected to the following screen shown below:

From this screen you can chose to download information for the whole state or by an eight-digit USGS Cataloging Unit.
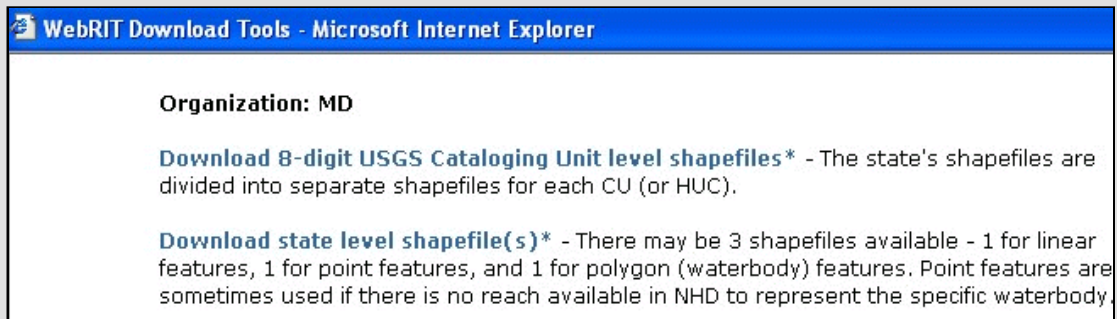
4.   Click on the Download 8-digit USGS Cataloging Unit level shapefiles* link.

5.   You can choose to download up to five Cataloging Units at a time.

6.   Click on the **Download Shapefiles** link. The WebRIT will prepare your downloaded shapefiles, which may take a few minutes.

4.0   Summary

The exercises in this tutorial provide a basic understanding of how the WebRIT WATERS tool works. Remember that the **Online Help** feature of the WebRIT also provides many useful tips, as well as a **Quick Steps** feature for performing certain tasks, such as adding and deleting events and entering metadata.

If you or your staff need any assistance while using the WebRIT online tool, please contact the Office of Water's Support Hotline at 1-800-844-0638, or by e-mailing the Office of Water's Support staff at owsupport@rti.org.